

KATHMANDU UNIVERSITY  
End Semester Examination  
June/July, 2023

Marks Scored:

Level : B.Sc.

Year : II

Course : AGES 212

Semester: I

Exam. Roll No. :

Time: 30 mins.

F.M. : 10

Registration No.:

Date

: July 20

SECTION "A"

[20Q. × 0.5 = 10 marks]

Mark [×] to the most appropriate alternative from each set of choices.

- Less rapidly decomposing organic matter is \_\_\_\_\_.  
 Sugars       Waxes       Celluloses       Resins
- Plant tissues contain \_\_\_\_\_% lignins.  
 10-30       1-5       1-10       70
- White color in soil is due to presence of \_\_\_\_\_.  
 NaCl       Na<sub>2</sub>SO<sub>4</sub>       Both of them       None of them
- Non-Saline Alkali soils has ESP less than \_\_\_\_\_.  
 13%       12%       14%       16%
- Weathered & broken parent rock is known as \_\_\_\_\_.  
 O-horizon       E-horizon       D-horizon       C-horizon
- Ether soluble lignin is \_\_\_\_\_ soil organic residues.  
 Nitrogenous       Half nitrogenous  
 Non-nitrogenous       Full nitrogenous
- The pH range of strong acidic soil is from \_\_\_\_\_.  
 3.5 to 4.5       4.5 to 5.0       5.1 to 5.5       6.1 to 6.5
- Material obtained from the excreta and dead bodies of sea birds is \_\_\_\_\_.  
 Guano       Fish products       Bone meal       Blood meal
- In pellet application of fertilizer, the fertilizer is mixed with soil in the ratio of \_\_\_\_\_.  
 1:10       2:10       1:15       2:15
- VAM is a type of \_\_\_\_\_ biofertilizer.  
 Algal       Fungal       Phosphate       Aquatic

**Fill in the banks.**

11. Application of Azospirillum with the paddy plants is an example of \_\_\_\_\_ dipping.
12. The conversion of inorganic forms of C, N, P and S by the soil organism into organic forms is called \_\_\_\_\_.
13. The process of conversion of proteins to aminoacids is called as \_\_\_\_\_.
14. The process, which involves conversion of soil nitrate into gaseous nitrogen or nitrous oxide is called \_\_\_\_\_.
15. The transformation of organic nitrogenous compounds into ammonia is called \_\_\_\_\_.
16. Non-symbiotic bacteria during nitrogen fixation is called \_\_\_\_\_.
17. The word manure is derived from the French word called \_\_\_\_\_.
18. The availability of zinc in calcareous soil is \_\_\_\_\_.
19. Acid soils have \_\_\_\_\_ permeability.
20. Arid and semiarid region contribute on formation of \_\_\_\_\_ soils.

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Level : B.Sc.  
Year : II  
Time : 2 hrs. 30 mins.

July-10.  
Course : AGES 212  
Semester: I  
F. M. : 40

SECTION "B"

(Short answer questions)  
[6Q. × 4 = 24 marks]

Attempt *ANY SIX* questions.

1. Write on plant analysis and tissue testing as soil fertility evaluation technique.
2. What is flocculating power of cations? Describe.
3. Write on classes of organic manure.
4. What are different ways of using bio-fertilizers?
5. What is soil productivity and soil fertility? Explain.
6. What factors affect microbial decomposition in soil?
7. Explain integrated nutrient management with an example.

SECTION "C"

(Long answer questions)  
[2Q. × 8 = 16 marks]

Attempt *ANY TWO* questions.

8. Describe nitrogen cycle. What are deficiency and toxicity symptoms of nitrogen in plants?
9. What are different methods of solid and liquid fertilizer application methods?
10. What are sources of acid soils? Describe the characteristics of acid soil.